

Please stand by for real-time relay captioning.

>> Good afternoon everybody, and welcome. Every of year we take off the first week in February, try to share with the public and our colleagues in different parts of the NOAA -- one of our officers who -- fly into hurricanes, make sure -- their experience.

>> This afternoon we are going to take a little different tact and share with you some of our ocean programs, in particular this session is entitled Green [indiscernible] talk -- with marine mammals and -- first we are going to show you two films. The first one will introduce you to [indiscernible] all the aspects of -- and second a film -- the rescue of a whale.

>> We will show that and then come back, ask two of our experts -- engage you with some presentation and -- with that, let's roll the first film.

>> Drum roll, music ...

>> National atmospheric and oceanic administration -- these divisions chain together to form one overarching -- NOAA. Today -- bottom of the sea to the surface of the sun, [indiscernible] in our daily lives.

>> [Audio not clear]

>> We can -- many -- Atlantic, Pacific -- really just one big ocean. The people who work -- take the daily pulse -- save lives, our property and protect our environment, from weather to -- each year -- together they make one NOAA.

>>

>> Music ... "let's all go -- to get ourselves a treat" -- can't be beat -- just dandy, the chocolate bar, the candy, let's all go to the -- to get ourselves a treat. Let's all go to the lobby, to get ourselves a treat."

>> Beginning like any other day in Seattle, Washington. Today is -- since the morning rush. A baby -- dangerously close to the -- alone, [indiscernible] the orphan whale population in the northwest is declining -- decline -- this -- is it's mother?

>> Rushes up on the beach -- Washington. Could she be the baby Orca's mother? NOAA, the National Atmospheric and Oceanic Association is responsible for whales under the -- to determine the cause of death and --

>> [indiscernible] population offer says Orcas that inhabit the northwest. [indiscernible] marine mammals such as -- on the otters and -- follow the migrating fish into the coastal areas -- whale can be identified by unique markings on its fin, and the mutation of the -- at the base of the fin. Helps researchers distinguish between offshore and -- Orcas.

>> The [indiscernible] whale is identified -- the baby Orca eats salmon which -- the female is not the baby's mother. Residents -- at the heart of the Orca's -- for area children, even adult son, they -- family over their life. The [indiscernible] those -- to form the extended clan and community. Waters off the -- Vancouver, into Puget sound.

>> The northern -- travels between -- Alaska and [indiscernible] islands. The Puget sound can -- the center for whale research, interacts with the small whale -- photograph the -- and --

>> In the northwest we have the -- taking pictures of almost every whale, almost daily -- keep track of every whale, when we do -- turn up somewhere, everybody -- get excited, the comprehensive -- going on. From here to Alaska.

>> The baby -- eye-patch markings suggests the baby belongs to a northern [indiscernible] of whales.

>> Each summer the northern -- returns to Vancouver island in -- the small research station in -- to monitor and --

>> [Audio muffled and indiscernible] be]

>> Very long -- social -- keeps the community together.

>> A young Orca is a two-year old female -- her nickname is -- had not returned with their pod the previous summer. The Orca -- was concerned that -- 300-miles -- Puget sound and -- without [indiscernible] it's doubtful -- could find her way home.

>> NOAA -- decision about [indiscernible] soon. Some activists wanted to leave her alone, let nature take its course. [indiscernible] others -- she will die, but slowly -- both organization want the whale -- but maritime officials will not -- unless -- returned to the wild.

>> [indiscernible] of NOAA holds a press conference to announce the agency's decision.

>> The Orca -- just this morning we observed her becoming [indiscernible] rubbing up against us, looking for -- with that, in mind, we have -- rescue of the Orca on Thursday or Friday of this week. The -- include -- the rescue team --

>> NOAA -- and the team of specialists to -- [indiscernible] indication of starvation -- control during the rescue.

>> We just want to make sure we can --

>> The best chance to -- with her pod -- by early fall the -- migrate -- for evaluation and care.

>> Our plan is for now -- the day before -- the -- out into Puget sound, capturing -- effect on the sick baby. The team -- use the pen only in calm weather conditions, strong currents or high winds might tangle -- and she could drown. [indiscernible]

>> Restoration of a juvenile Orca back to its community has never been tried before, and we don't know it will work. There's a chance [indiscernible] may result in a longer life for this Orca.

>> The -- rescue, and the --

>> [indiscernible]

>> -- a lot of -- should be able to do that -- we'll just try to make this go as fast as we can.

>> The team leaders decide not to use the -- but to -- to control the whale. As the boat -- around her, becomes upset and -- the teamwork to ease the special stretcher around her. The baby -- increase. She is clearly upset, but securely positioned between the two boats. [indiscernible] ropes are attached to the stretcher. [indiscernible] out of the water and into the air. She [indiscernible] gently she is lowered on to a piece of foam rubber where the team will keep her skin wet.

>> [indiscernible], a member of the veterinary team begins the examination.

>> Her condition, she is not -- everybody -- one of the things we want to answer, does she have any actual inherited metabolic abnormalities.

>> Samples are taken, and [indiscernible] to -- across the country. Then -- children's hospital will run the samples to analyze the -- it's a crucial test. If any -- or inherited problems are found, she will not be -- short journey to the Manchester research facility incident.

>> [indiscernible] -- watching her -- she was in the pool, swam anxiously for a moment -- rolled -- had a tummy wrach. I think she's on the right track.

>> [indiscernible] her future is uncertain. Will she be healthy enough to return to -- or -- provide in an aquarium. Tomorrow the veterinary team will continue its work and wait for the lab report that will determine her fate.

>> [indiscernible] as scientists monitor her activity. This remote monitoring system to minimize our presence around the pool site, we don't want her to get accustomed to humans anymore than she already has.

>> Within a week -- are arranged. She has no metabolic -- but is infected with parasites. In the night -- [indiscernible] the scientists do not want -- to infect the -- with people.

>> The biggest challenge right now is -- we try to do that with various -- like kelp, water -- try to keep her inactive as we can.

>> Over the next few weeks -- gained 150 pounds.

>> Her skin condition dramatically improved. After -- she is healthy and ready to go. This will be her last night at the Manchester facility.

>> Tomorrow she will begin her 300-mile journey home.

>> Today is -- day.

>> No Orca has ever rejoined its family pod after separation. Everyone hopes she will be the first.

>> To prepare to put the whale on the stretcher, transport on the -- she'll be hanging in the stretcher, rest comfortably there, keep the water circulating -- nice and cool, then -- [indiscernible]

>> -- her pod, an option, to -- [indiscernible]

>> After 10 hours, the cat mar an arrives. [indiscernible] into her holding pen. Spectators watch as she -- and taken to the next pen -- placed inside -- after all the work, expense and anticipation -- will her pod accept her? Several Orcas from the pod draw near the pen. [indiscernible] close to one another. The next morning the A pod returns to the bay. The [indiscernible] transmitter to -- transmitter will track, monitor -- behavior. Finally, it's time.

>> As members of the A pod come close to the net, the team pushes her under the edge of the net.

>> At last, she's free in her home -- quickly swims toward her relatives, as she turns away, keeping a distance from the pod. The following day scientists used a radio transmitter to track the young whale. At first [indiscernible] swipe swimming year, but not joining the pod -- dangerous habit of approaching --

>> At one point -- a [indiscernible] rounds her up and pushes her toward the pod. [indiscernible] had lost her first baby and seems to adopt --

>> At the beginning of autumn -- with her pod -- she -- must survive the first winter ocean, and -- at the top of the food chain, killer whales are especially sensitive to changes in the health of the ecosystem.

>> [indiscernible] they have so few breeding years, young animals are vanishing. At the last count -- [indiscernible] had died.

>> As spring turns to summer, millions of salmon begin to return to their rivers of origin in Vancouver's inland passage ways. As they have done for thousands of years, [indiscernible] return to Johns [indiscernible] Strait. There is no sign of --

>> Every day, [indiscernible] watching group -- eager to catch a glimpse, gathering to feed on returning salmon. No one sees -- finally, on July 9, [indiscernible] whale watcher explorer saw a small whale -- Springer has come home.

>> To hear of this whale coming back, spending a whole winter who knows where in the middle of the Pacific --

>> [indiscernible] greatgrandmother, and adopted mother -- [indiscernible]

>> Possible -- separation -- if we know that -- an individual fits into -- in [indiscernible]'s story there is hope. She couldn't have been left to -- but she could be [indiscernible] she could have died from stress or -- attack. She could have -- not given -- living the rest of her life [indiscernible] she swims free with her family -- [indiscernible]

>> At 11:00 to 2, we will show other films, and Wednesday, at 11:00 [indiscernible] from channel 4, meteorologist will be here to talk to us, exciting program with some experienced divers, explorers, people from the outside that dive to the depths of the ocean finding sunken ships and the like.

>> So now, it's my pleasure to introduce to you Dr. Janet Whaley a veterinarian, marine mammal biologist, colleagues in the fishery service, resource division. They [indiscernible] marine mammal -- program, and will share their experiences. As you can see by the film, there are a lot of decisions that go into making a decision like that. As a matter of fact, whether to leave marine mammals in the wild, have human intervention. It's quite an experience. We are lucky to have these two talented people working with us, our partners --

>> [Applause]

>> Thank you for coming to spend the afternoon with us, watch the film, it's a great story. And here she is, Springer, picture taken in 2008. We have seen her every summer since then. This is unprecedented. Really proud of what we did.

>> [indiscernible] the film, and -- we are going to go over a little -- network, consideration about -- decisions, animals were -- and information we gathered from animal network -- investigation on CSI. So -- with us.

>> We are a part of the office of protective resources, we work with folks out in the nation who work with -- 120 organization we train, make sure -- responsive to animals. Any marine mammal stranded on the beach, alive or dead -- [indiscernible] we respond to those type of animals, across the country, and we report about 5000 of these animals stranded a year. We rely heavily on the organization out in the nation to respond, treat humanely if they are alive, if dead to [indiscernible], to the environment. Here are pictures of what we call a [indiscernible] stranding. Up in Maryland. Whales that -- group -- off Cape Cod. In the summertime -- geography of Cape Cod, that area, animals get lost, caught in the -- because of the tide. The -- another hot -- the pan handle of Florida we see a lot of --

>> Animals out -- environment -- large whales, and [indiscernible] great whale, tangled in fishing gear, debris. We have an extra special -- people who are very skilled, to be able to go out -- do surgery on these animals, middle of the ocean, take -- very dangerous, takes a lot of special equipment, special skill to be able to do that. In fact, about three weeks ago we had a Right Whale, tangled in Florida, southern Georgia, tangled, severe wrap -- skin -- fin -- we were trying to sedate the animal just enough to take the edge off to approach him, under the rope -- embedded in the skin, did have to do minor surgery. We are working -- sedating, not too much, or they will sink. We are still working up the techniques. We weren't able to -- enough to do the mine surgery, but were able to place a -- track it. [indiscernible] network responds to about 20 large whales tangled in the East Coast, 20 on the West Coast, highly specialized team to do that.

>> [indiscernible] animal strand, environment -- we do -- why? Animals -- again, we -- marine mammals, everything from -- looking for -- interaction with any kind of fishing gear, debris, ship strike -- and [indiscernible] here I am taking measurements of the fluke to the tail. A little information about what -- pilot whale, what are they doing in the environment and --

>> This is a California sea lion that died -- [indiscernible] produced by an --

>> [indiscernible] Cape Cod, middle of the ocean, [indiscernible] shark, big chunk, tried to go at a sample of stomach, concern about biotoxins killing that whale in that particular area. Trying to get -- because -- the animal, toe 200-miles to shore, the shark -- we sample animals out in the ocean, this animal is a gray whale. Has a [indiscernible] between two ships, very dangerous. We have special equip, folks that help the sampler --

>> Ocean health in general, we don't think we are [indiscernible] investigate pollution, certainly high on our list. Know where the pollution is coming from, oil tanker, oil spill, you also have non-point source solution. Areas of increased population, and use, has impact on the environment --

>> Debris, again, you see much more of these -- more garbage on the beach, estuaries. [indiscernible] las Alaska Alaska, heard about these cases, this animal has -- thrashers, [indiscernible] this is an extra of a -- hook ins his stomach. Might cause -- and they die.

>> This animal here was -- [indiscernible] very old tire -- this animal -- surgery for that animal -- [indiscernible] this animal here got

caught into a wind sock, [indiscernible]

>> This is a baby hump back whale in Hawaii, she had a chance to survive, again, [indiscernible] monitor, keep track, document.

>> This is a -- exposed to -- off California, [indiscernible] this animal -- rehabbed, treated, and had permanent brain damage we didn't know about, ended up -- wasn't doing so well, had to recapture and -- all these occasions come up -- toxins, effect their brain -- it's causing problems. >

>> The fact that we were -- when people get too close to marine mammals -- sometimes -- get too close, might accidentally run over the animal, that can be a problem. We have been -- part of our program is to educate the public, about good positive ways to help animals in the wild without having a negative impact. Our job -- remind people about the good [indiscernible] watching wildlife -- reporting to us any problem they may observe that they see, animals that are sick. We do that to a wide variety of guidelines, recommendations, and have certain [indiscernible] people to -- really appreciate the natural beauty of the animal.

>> [indiscernible] things we are looking at -- might become more of a problem be in the future -- especially in the winter-time -- [indiscernible] heard in the news, heard about -- flu shot -- virus -- in this area -- [indiscernible]

>> Trying to investigate where -- exposure of toxic -- virus -- bacteria, usually -- other animals -- it can get into -- looking -- to a -- caution --

>> Another emerging -- the oceans of -- becoming more -- this is a special report for large whales -- mutation -- cross ocean -- increased -- can't hear each other. Very concerned about that, had -- related, increased -- especially in the arctic area, activity planned to -- impact the population.

>> First responders, we try to -- respond to events like this. We also work with scientists to -- the population, what's going on out there in the environment. We have several studies across the nation. This is in Florida, going on 30 years, and it's really great -- 30 years of information --

>> Actually, another -- more animals coming out of their range, change -- this is a -- not long here -- this animal is -- Ft. Lauderdale -- loud Ft. Lauderdale -- what are we going to do -- the cool thing, still -- discovering species -- this animal was in the Dominican Republic -- I think it's a -- whale, but not sure because it has such a long snout, not what we usual typify on a whale -- [indiscernible] new species.

>> That's pretty cool. I am going to turn it over to Trevor We have had a couple cases he wanted to go over.

>> There was a wonderful example of how we worked, important case, working with animals. Some of the -- may have heard recently we -- similar to -- also don'ts not far away, in New Jersey, be a group of 16 bottle-nosed dolphin that's took up residence -- jersey shore area. This was very high-profile, somewhat controversial situation for us. We had dolphins living there, thriving, doing well, but the federal local folks were concerned the animals weren't going to necessarily be able to make it through the summer, into the fall and winter months. We had a big education and outreach with the local folks to help monitor and protect throughout the summer. July 4th weekend, a lot of boats out there, [indiscernible] messages, people, animals -- and this is a map showing where they were congregating, splitting into two groups, one group hanging out -- and one in the -- area where the [indiscernible] joined.

>> One of the big mysteries about this case, [indiscernible] such activity going on in the area, and several -- community, concern, perhaps the bridge construction was somehow threatening the animal or preventing them from leaving the area. We convened a panel of experts, and [indiscernible] all the experts who consulted with us were unanimous, the construction activity probably didn't have impact on the animals at all. They were -- [indiscernible] another one called the Oceanic Bridge -- the animals were -- back and forth, the construction activities were not going on 24 hours a day, seven days a week. There were periods of time there was no construction at all. We felt fairly confident the animals felt free to come and go if they wanted. This was a map, publish the in the Washington post two weeks ago, to show the range of this particular population of animals.

>> In the red area, hatched area, this particular -- the migratory -- Delaware, Virginia, then migrate South off the coast of North Carolina in the wintertime. So this explains why people were concerned, like with Springer, people were concerned the dolphins weren't where they should be at this particular time of year.

>> [indiscernible] the record, and so important, vital to us, the partnership we have all up and down the coastlines, we were able to consult with our network, team, and find cases in the past where this same group of animals -- bottle-nosed dolphins had over-wintered in mass Cape Cod, and Virginia, in very cold water. In those cases it was shown that there was enough food to maintain body condition, and blubber layer, they could survive. We were really encouraged the animals had a good chance of surviving and had several survey that went on throughout the course of the fall, monitoring the animals.

>> So of the original 16 dolphins of the group, three of the animals did strands and die, but [indiscernible] cases, and finding currently -- one died in September, one in October, one in December. The veterinary team that looked, said typical case of -- [indiscernible] 13 animals left, eight disappeared. It's hard to say what may have happened to them. We think they probably left, but again, those animals didn't have tags, like Springer. But we still -- eight animals left. As the [indiscernible] approached we had -- dolphins in the area, a lot of concern, ice formed in the river system. A lot of pressure to intervene. Our position was to leave alone. As in the -- case, it's a very intensive operation to move an animal, one animal, five animals in a group. We weighed the pros, cons, felt good with, as long as -- good body condition, feed well, they had a chance to make it. [indiscernible] so right before the big freeze time we got a report from the locals monitoring the animals, said they saw the animals on January 15 leaving the river system. We were encouraged by that, additional surveys, by land, another survey this coming week with our team, doing -- checks, [indiscernible] at all. The last -- so we are cautious about -- animals. Hopefully they are on their way back South to join their group. That whole experience was a bit of a challenge. We had good -- biology behind it, and that case -- next slide, was on the heels of a very famous case you may have heard of in 2007, hump back whales in the Sacramento river.

>> This mom and baby went 90-miles up the river from [indiscernible] and became local celebrities. A lot of -- about these animals. In this case we did intervene -- Springer. The reason for our -- because first of all this is an endangered species, humpback whales. Populations are improving, but still endangered. A viable female and calf, really important that you try to help those animals survive. They are really important for the next generation to help the population grow.

>> Also, both of the animals had injured -- a big gash, we think that probably happened in a collision with a vessel. There was a lot of concern with the calf injured, they were in poor health. We mounted a huge rescue effort, California -- and consulted conpeople all over the world, a huge coming together on how we were going to do this. Because these animals are so huge, you saw how big Springer was, imagine humpback whales. You can't just -- it's not like herding cows. First, to lure the animal, entice them to move by playing social sounds from their own species. And also feeding sounds. That might fire them to move in our direction.

>> When that didn't work, we tried to [indiscernible] using different types of sounds, banging on pipes -- that technique has been used in Japan, over the centuries, part of their culture, herding animals, tried whale sounds, predator whales, tried man-made alarm sounds, bells, whistles. None of that worked. We got creative, fired -- fire operation, to get the animal to move. We saw a little movement, animals responding to the bubbles, noise caused by -- but not very much at all.

>> So since they remained in the area, Sacramento river, it's very fresh, these are marine mammals, their [indiscernible] to live in a salt-water environment. So the exposure was doing damage to their skin. The veterinarian was concerned and there was a feeling, you

see the wound, the gash here was not doing well at all, probably because it was exposed to fresh water environment and this was a highly populated area, and things in the water may have been impeding the healing process.

>> So whalen and -- first attempt ever to administer antibiotic to a whale, come up with a way to add antibiotics to the whale. Darts were fired into one of the animals, both mother and baby [indiscernible] antibiotics, and -- you can't really go to the shelf, look it up in a medical textbook, how much antibiotic do you give a humpback whale --

>> So we were able to essentially get antibiotics into the animals. The very next day the animals started heading out of the river. We can't say, none of us can say that's what caused them to leave the area, but -- we like to think we gave them a little of a boost. Helped them feel better. Tried make trek out to the ocean, they were [indiscernible] Bay over couple days, monitored them every step of the way, and were thrieted delighted to see them in San Francisco Bay. They have not been seen again, but we have [indiscernible] photographs of them, well-photographed whale. We are confident if the humpback researchers up and down the western sea boards see them they will be able to match with our catalog. We are on -- these whales were named Delta and Dawn. [indiscernible] to help us try to finds them if ever they show up again. They might.

>> This is a picture of Dawn, the baby, as she was heading out, down the Sacramento river, and amazing picture -- of the baby breaching -- no clue -- you can see how big this whale is compared to the -- this is just the baby, brand-new baby. Her mom was -- very cool experience. I was honored to help these animals.

>> We are happy to entertain questions. We have some, children's -- in the audience, kids. We have 15, 20 copies or so if the kids are interested in taking a copy that will be great. If you have questions for us, feel free --

>> Question: What is the average --

>> Well, that's a good question. Probably the most -- Orca whales, again, the resident killer whales on the West Coast. Females live longer than males, 50 years, could be older, often [indiscernible]

>> [indiscernible]

>> Yeah -- [indiscernible] resident population, between 14 and 15, and females -- males -- I don't think males are -- until 20, full grown.

>> Do Orcas attack humpback --

>> Well, again, there are a couple different types of killer whales. There's the transient, attack marine mammals, the [indiscernible] is a fish-eater. Calves --

>> Probably not an adult.

>> Have they gone after an adult?

>> Yes.

>> As a pack.

>> Killer whales, definitely a lot of analogies have been made -- Wolfpack, very coordinated hunting. If you have an old adult whale or sick adult whale, very similar. [indiscernible]

>> Question: [indiscernible]

>> That is the \$51,000 question. Trying to find out, is the same pathogen -- in humans -- a little different, but -- how did it get out there? We don't know. Trying to investigate that. We believe, again, that's going to be -- great question, we scratch our heads, figure this out -- how are --

>> Question from -- Cornell --

>> [indiscernible]

>> Great question. Well, as they move, so for a seal, seals have short -- move by moving their back -- when on land they inch like an inchworm. Sea lie lions have huge front flippers, like Michael Phelps in -- the back to steer themselves. On land the sea lions walk. Probably the biggest -- and sea lions have external ears and -- you see a sale, don't see ears. Seals. They have little pin holes.

>> Question: What -- education --

>> Well, [indiscernible] school. University of Florida, and after that I picked up some courses along the way, experiences, and -- really [indiscernible] veterinary school, you have to get good grades, do a lot of extra curricular activity, make yourself competitive. Once you are in, great opportunities -- marine mammals.

>> Question here?

>> My question was about [indiscernible] response to -- and how does the average citizen go about becoming educated for [indiscernible] out in the ocean?

>> 100 formal organization,s country wide, 20 or 30 -- Baltimore -- offer to volunteer, they [indiscernible] training opportunities. We have headquarters, guidelines, standards for everybody across the country, how to -- respond -- [indiscernible] unless you have the right field training.

>> What about coordinating with Canada -- Mexico, how does that work?

>> We are [indiscernible] internationally, working with -- Mexico, Canada, and also Australia, New Zealand and [indiscernible]. Africa actually works -- again, technology transfer, sharing knowledge, training. Training courses and -- [indiscernible] as well. Canada, Mexico, right next to the U.S., whenever something -- happens, ought break, get die, sick, we coordinate closely -- do investigation.

>> Question: [indiscernible] the public what they should do if they see a stranded animal?

>> There should be -- certainly call NOAA. We have 50 regional coordinators, find out contact information. In ocean City, hop on the website. Also -- give a call -- and [indiscernible] out there.

>> [indiscernible] experts -- great hotline number you can call. Many times -- life guards, local water safety, marine patrol. Part of or put into the [indiscernible] number. So they can help communicate.

>> Why do sharks kill dolphins?

>> Well, a shark has to eat, too. And they eat dolphins, and all kinds of marine animals, seals, fish, and -- so, sharks have an important role in the ecosystem. They have had a role. When they eat dolphins it's because they are trying to eat dinner.

>> We are investigating what are the impacts of -- noise -- interfering with their communications, impairing -- and [indiscernible] mitigation practices, working closely with organization that use son ar, lirk the Navy, to make sure they are cautious, observers to make sure they are not doing more harm than good. It's something that we are really trying to work with.

>> Anymore questions?

>> Is there any -- sewage treatment contributes to some of the mystery -- human-related --

>> We just don't know, but we are trying to investigate, working hard with the folks at NOAA that do -- investigation, work in the -- what the potential impact is on marine mammals, as well as humans. I have to say a [indiscernible] toxin -- in California, [indiscernible] sea lions before shellfish, they had to close down fisheries based on what was going on in the sea lions. Public health concern, they showed it first. Trying to finds out if -- development, impact on coastal -- [indiscernible] it could be --

>> In the film you showed -- device -- could it be -- Springer --

>> [indiscernible] this particular case -- didn't know how to be a real whale -- eventually did get -- the pod, took on her -- that was good.

>> Questions here?

>> Thank you.

>> [Applause]

>> One thing we have founds, the -- pretty much behave themselves, sometimes the people catching them don't, so we have fish -- coming up I have a final -- of the day, about special people on a special mission. But we are going to -- if you want more popcorn, hang around, stay with us. If not, we are going to be here all week --

>> [indiscernible] we'll see you in a couple of minutes.

>> [event concluded]

>>